

## **ABSTRACT**

A system and method for utilizing an image processing technique to transform raw data collected by a mass spectrometer into a hierarchical data format. The image processing technique may include the use of a wavelet transform. The hierarchical data format, provides for  
5 using the transformed data at multiple resolutions without data loss for such operations as data mining, matching, and displaying, for example. Further, the transformed data enables higher levels of data compression than generally possible from directly compressing the raw data. Additionally, the transformed data provides can be used to identify and suppress noise.